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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,937	07/03/2003	Geoffrey S.M. Hedrick	3190-54	6769

7590 05/16/2007

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EXAMINER	
PERVAN, MICHAEL	
ART UNIT	**PAPER NUMBER**
2629	

MAIL DATE	DELIVERY MODE
05/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

Office Action Summary	Application No.	Applicant(s)	
	10/613,937	HEDRICK, GEOFFREY S.M.	
	Examiner	Art Unit	
	Michael Pervan	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/16/04 3/9/07*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harter (US 6,447,132) in view of Walsh et al (US 5,886,681).

In regards to claim 1, Harter discloses a method of illuminating a display screen of a flat panel display so as to smoothly and dynamically vary a display screen illumination level between a predetermined maximum illumination level suitable for viewing of the display screen in ambient daylight conditions (col. 2, lines 53-54; during daylight (daytime) conditions there is a predetermined maximum illumination (only high brightness light source is active)) and a predetermined minimum illumination level suitable for viewing of the display screen in ambient night conditions (col. 2, lines 59-64; during night (low light) conditions there is a predetermined minimum illumination (only low brightness light source is active)), comprising the steps of:

Monitoring a level of ambient light incident on the display screen to determine a desired display screen illumination level within a range defined between the predetermined maximum and minimum illumination levels (col. 2 lines 43-46 also see Figure 5, ambient light sensor 17).

Harter discloses varying a one-hundred-percent duty cycle fluorescent electrical control signal (Figure 2, 18A) for operating a fluorescent lamp (col. 2, lines 6-8 and col. 4, lines 19-31; the one-hundred-percent duty cycle fluorescent electrical control signal (high brightness signal) controls the fluorescent lamp (high brightness light source) and since the fluorescent lamp dims and brightens depending on ambient conditions the one-hundred-percent duty cycle fluorescent electrical control signal must change (vary)) disposed for illuminating the display screen between a first fluorescent control signal level for illuminating the display screen at the predetermined maximum illumination level and a second fluorescent control signal level for illuminating the display screen at a pre-determined transition illumination level less than the predetermined maximum illumination level but greater than the predetermined minimum illumination level and greater than a minimum fluorescent operating control signal level sufficient for maintaining continuous constant-brightness output from the fluorescent lamp at a one-hundred-percent duty cycle, so as to illuminate the display screen at the determined desired display screen illumination level when the ambient light is between said predetermined maximum illumination level and said predetermined transition illumination level (col. 4, lines 19-30 and 38-41, when ambient light conditions reach a predetermined low level corresponds to the predetermined minimum illumination level, when ambient light changes processor 13 controls the fluorescent lamp 21 to either dim or brighten responsive to the changing conditions, this corresponds to a varying one-hundred-percent duty cycle

electrical signal, when both the high brightness light source 21 and low brightness light source 22A and 22B are active, bright light 21A is mixed with dim light 22C in panel 23, this corresponds to the transition illumination level).

Varying an LED electrical control signal (Figure 2, 18B) for operating at least one light emitting diode (col. 2, lines 19-21 and col. 4, lines 42-52) disposed for illuminating the display screen between a first LED control signal level for illuminating the display screen at the predetermined transition illumination level and a second LED control signal level for illuminating the display screen at the predetermined minimum illumination level, so as to illuminate the display screen at the desired display screen illumination level when the ambient light condition is between said predetermined transition illumination level and said predetermined minimum illumination level (col. 4, lines 36-41 and 42-59, when both the high brightness light source 21 and low brightness light source 22A and 22B are active, bright light 21A is mixed with dim light 22C in panel 23, this corresponds to the transition illumination level).

Harter also discloses as the desired display screen illumination level decreases to said predetermined transition illumination level, discontinuing supply of the fluorescent control signal to the fluorescent lamp to discontinue illumination output from the fluorescent lamp (col.4, lines 28-30, when ambient light conditions reach a predetermined low level, the high brightness light source is turned off), supplying the LED control signal to the at least one light emitting diode, and varying the LED control signal in accordance with the monitored

current display screen illumination level to illuminate the display screen at the determined desired display screen illumination level (col. 4, lines 31-33, 42-52).

Harter teaches as the desired display screen illumination level increases to said predetermined transition illumination level, initiating supply of the fluorescent control signal to the fluorescent lamp to initiate illumination output from the fluorescent lamp, varying the LED control signal in accordance with the monitored ambient light conditions to assist the fluorescent tube in illuminating the display screen at the determined desired display screen illumination level as the fluorescent tube is initially powered, and discontinuing supply of the LED control signal to the at least one light emitting diode when the monitored ambient light condition indicates that the illumination output of the fluorescent tube is sufficient to illuminate the display screen to the determined desired display screen illumination level (col. 2, lines 53-64; since the brightness is responsive to changes in ambient light it is inherent that the method outlined in these lines is reversible).

Harter does not disclose monitoring the current display screen illumination level and providing said monitored level to a display screen illumination level controller that is operable for illuminating the display screen at said determined desired display screen illumination level.

Walsh discloses monitoring the current display screen illumination level and providing said monitored level to a display screen illumination level controller (intensity control means 126) that is operable for illuminating the display screen at said

determined desired display screen illumination level (col. 3, line 63-col. 4, lines 5 and 18-22).

It would have been obvious at the time of invention to modify Harter with the teachings of Walsh, monitoring current display brightness and ambient light, by incorporating the teachings of Walsh into the device of Harter because it allows smooth continuous dimming transition from a wide range of maximum to minimum intensity (col. 2, lines 21-23).

In regards to claim 2, it claims an apparatus with structural means that are paralleled in the method steps of claim 1 and are therefore rejected for the same reasons.

In regards to claim 3, it includes all of the limitations of claim 1, but also further limits the display controller, see claim 1 rejection.

Harter discloses in Figures 1 and 5 a display screen illumination level controller (processor 13) connected to the display illumination level sensor, to the fluorescent lamp and to the at least one light emitting diode and operable for controlling operation of the fluorescent lamp and the at least one light emitting diode to smoothly and dynamically vary the display screen illumination selectively between the predetermined maximum and minimum illumination levels so as to illuminate the display screen at a present desired display screen illumination level by (col. 3, lines 58-66;):

> further varying the LED electrical control signal (Figure 5, 18B) for predeterminately illuminating the display screen at and proximate the predetermined transition illumination level to

(i) decrease the LED electrical control signal in accordance with the monitored current display screen illumination level and the present desired display screen illumination level to correct for fluorescent lamp persistence at fluorescent lamp shut-off (col. 2, lines 57-61; the light sources are mixed to correct for color shift therefore both lights light sources are on, until the ambient light drops low enough, then the high brightness light source is turned off and the brightness level is corrected for by using the low brightness light source),

to thereby maintain an uninterruptedly smooth variation in the display screen illumination level as the display screen illumination level is dynamically varied between the predetermined maximum display screen illumination level and the predetermined minimum display screen illumination level.

Harter does not disclose a display illumination level sensor for monitoring a current display screen illumination level.

Walsh discloses a display illumination level sensor for monitoring current display screen illumination level (col. 3, line 63-col. 4, line 5).

It would have been obvious at the time of invention to modify Harter with the teachings of Walsh, monitoring current display brightness and ambient light, by incorporating the teachings of Walsh into the device of Harter because it allows smooth continuous dimming transition from a wide range of maximum to minimum intensity (col. 2, lines 21-23).

In regards to claim 4, it claims method steps paralleled to the structural means cited in claim 3 and are therefore rejected for the same reasons, see MPEP 2112.02 *In re King* ("When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process").

In regards to claim 5, Harter does not disclose a method in accordance with claim 1, wherein said step of monitoring the current display screen illumination level comprises optically monitoring the current display screen illumination level.

Walsh discloses a method in accordance with claim 1, wherein said step of monitoring the current display screen illumination level comprises optically monitoring the current display screen illumination level (col. 3, line 63-col. 4, line 5; since photosensors are used to monitor the illumination level, the monitoring is done optically).

It would have been obvious at the time of invention to modify Harter with the teachings of Walsh, optically monitoring the current display illumination level, because it allows smooth continuous dimming transition from a wide range of maximum to minimum intensity (col. 2, lines 21-23).

In regards to claim 6, Harter does not disclose a method in accordance with claim 1, wherein said step of monitoring the current display screen illumination level comprises optically monitoring the current display screen illumination level using a photosensor.

Walsh discloses a method in accordance with claim 1, wherein said step of monitoring the current display screen illumination level comprises optically monitoring the current display screen illumination level using a photosensor (col. 3, line 63-col. 4, line 5).

It would have been obvious at the time of invention to modify Harter with the teachings of Walsh, optically monitoring the current display illumination level using a photosensor, because it allows smooth continuous dimming transition from a wide range of maximum to minimum intensity (col. 2, lines 21-23).

In regards to claim 7, Harter does not disclose an apparatus for illuminating a display screen in accordance with claim 2, wherein said display illumination level sensor comprises an optical illumination level sensor operable for optically monitoring the current display screen illumination level.

Walsh discloses an apparatus for illuminating a display screen in accordance with claim 2, wherein said display illumination level sensor comprises an optical illumination level sensor operable for optically monitoring the current display screen illumination level (col. 3, line 63-col. 4, line 5).

It would have been obvious at the time of invention to modify Harter with the teachings of Walsh, optically monitoring the current display illumination level, because it allows smooth continuous dimming transition from a wide range of maximum to minimum intensity (col. 2, lines 21-23).

In regards to claim 8, Harter does not disclose an apparatus for illuminating a display screen in accordance with claim 2, wherein said display illumination level sensor

comprises a photosensor for optically monitoring the current display screen illumination level.

Walsh discloses an apparatus for illuminating a display screen in accordance with claim 2, wherein said display illumination level sensor comprises a photosensor for optically monitoring the current display screen illumination level (col. 3, line 63-col. 4, line 5).

It would have been obvious at the time of invention to modify Harter with the teachings of Walsh, optically monitoring the current display illumination level using a photosensor, because it allows smooth continuous dimming transition from a wide range of maximum to minimum intensity (col. 2, lines 21-23).

In regards to claim 9, Harter does not disclose an apparatus for illuminating a display screen in accordance with claim 3, wherein said display illumination level sensor comprises an optical illumination level sensor operable for optically monitoring the current display screen illumination level.

Walsh discloses an apparatus for illuminating a display screen in accordance with claim 3, wherein said display illumination level sensor comprises an optical illumination level sensor operable for optically monitoring the current display screen illumination level (col. 3, line 63-col. 4, line 5).

It would have been obvious at the time of invention to modify Harter with the teachings of Walsh, optically monitoring the current display illumination level, because it allows smooth continuous dimming transition from a wide range of maximum to minimum intensity (col. 2, lines 21-23).

In regards to claim 10, Harter does not disclose an apparatus for illuminating a display screen in accordance with claim 3, wherein said display illumination level sensor comprises a photosensor for optically monitoring the current display screen illumination level.

Walsh discloses an apparatus for illuminating a display screen in accordance with claim 3, wherein said display illumination level sensor comprises a photosensor for optically monitoring the current display screen illumination level (col. 3, line 63-col. 4, line 5).

It would have been obvious at the time of invention to modify Harter with the teachings of Walsh, optically monitoring the current display illumination level using a photosensor, because it allows smooth continuous dimming transition from a wide range of maximum to minimum intensity (col. 2, lines 21-23).

In regards to claim 11, Harter does not disclose a method in accordance with claim 4, wherein said step of monitoring the current display screen illumination level comprises optically monitoring the current display screen illumination level.

Walsh discloses a method in accordance with claim 4, wherein said step of monitoring the current display screen illumination level comprises optically monitoring the current display screen illumination level (col. 3, line 63-col. 4, line 5).

It would have been obvious at the time of invention to modify Harter with the teachings of Walsh, optically monitoring the current display illumination level, because it allows smooth continuous dimming transition from a wide range of maximum to minimum intensity (col. 2, lines 21-23).

In regards to claim 12, Harter does not disclose a method in accordance with claim 4, wherein said step of monitoring the current display screen illumination level comprises optically monitoring the current display screen illumination level using a photosensor.

Walsh discloses a method in accordance with claim 4, wherein said step of monitoring the current display screen illumination level comprises optically monitoring the current display screen illumination level using a photosensor (col. 3, line 63-col. 4, line 5).

It would have been obvious at the time of invention to modify Harter with the teachings of Walsh, optically monitoring the current display illumination level using a photosensor, because it allows smooth continuous dimming transition from a wide range of maximum to minimum intensity (col. 2, lines 21-23).

Response to Arguments

3. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art (Farrell, US 5,143,433) is deemed relevant since it applies the use of fluorescent lamps for high brightness light sources and LEDs for low brightness light sources.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Pervan whose telephone number is (571) 272-0910. The examiner can normally be reached on Monday - Friday between 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MVP
May 10, 2007

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SUPERVISORY PATENT EXAMINER
Amr Ahmed Awad